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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,291	09/25/2003	George Liang	2003P14216US	4268

7590 01/27/2005

Siemens Corporation  
Intellectual Property Department  
170 Wood Avenue South  
Iselin, NJ 08830

EXAMINER
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PATEL, VISHAL A

ART UNIT	PAPER NUMBER
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3676

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/671,291

Applicant(s)

LIANG, GEORGE

Examiner

Vishal Patel

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/24/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Anderson et al (US. 6,261,053).

Regarding claim 1: Anderson discloses an outer air seal assembly (seal assembly of figure 13) for reducing leakage proximate a fluid guide component having a predetermined direction of rotation (rotation of turbine component inside 20 and 20', intended use). The seal assembly comprising a first boundary member (20) radially spaced apart from a central axis by a predetermined first distance (distance from axis where gas is flowing), the first boundary member characterized by a first interface edge and an opposite second interface edge (first edge near gap 58 and opposite second interface edge opposite of the first edge), a second boundary member (20') radially spaced apart from the central axis by a predetermined second distance, the second boundary member being characterized by a first interface edge and an opposite second interface edge, the second boundary member first edge being disposed proximate the first boundary member second edge and space apart therefrom by an interface gap (gap 58) disposed therebetween and the interface gap includes a radially-skewed portion having a radially-inward region (radially-inward region of 20' that forms a part of the interface gap) and a radially-outward region (radially-outward region of 20 opposite of the radially-inward region), the

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radially-outward region being rotationally-upstream of the radially inward region (the radially-outward region is upstream from the radially-inward region).

Regarding claim 2: The interface gap (58) separates the first and second boundary members circumferentially.

Regarding claim 3: The seal assembly further including a blocking panel disposed within the interface gap (panel similar to 16 blocking the interface gap 58).

Regarding claim 4: The seal assembly further comprising a radially-aligned region disposed outwardly of the radially skewed portion (portions above and below immediate the blocking panel).

Regarding claim 5: The blocking panel disposed within the interface gap.

Regarding claim 6: The blocking panel is disposed within the radially-aligned region (the panel is between the radially-aligned region of the first and second boundary members).

Regarding claim 7: A partition member (as showed in attached figure 13) extending into the interface gap, wherein a serpentine-shaped pathway is formed within the interference gap (this is the case since two partition members are there and it forms a serpentine shape pathway).

Regarding claim 8: The partition member is disposed on the first boundary member (see attach figure).

Regarding claim 9: The partition member is disposed on the second boundary member (see attached figure).

Regarding claim 10: The partition member is oriented in a substantially radially aligned manner with respect to the central axis).

Regarding claim 11: The partition member is oriented in a circumferentially aligned manner with respect with the central axis (this is the case since the partition are circumferential).

Regarding claims 12-13: The first boundary member further includes a radially inward surface (inward surface that has the partition) and a conduit (52) adapted to fluidly connect a source of cooling fluid to the interface gap, whereby the interface gap is adapted to deliver the cooling fluid to the location proximate the radially inward surface (as seen in the attached figure). The conduit is fluidly connected to the radially skewed portion.

Regarding claims 14-15: The second boundary member further includes a radially inward surface (inward surface that has the partition) and a conduit (56) adapted to fluidly connect a source of cooling fluid to the interface gap, whereby the interface gap is adapted to deliver the cooling fluid to the location proximate the radially inward surface (as seen in the attached figure). The conduit is fluidly connected to the radially-skewed portion.

Regarding claims 16-20: The first and second boundary members have a radially inward surface (surfaces having the radially-inward region and the radially-outward region). The interface gap separates the first and second boundary members axially (as seen in attached figure). The seal assembly further including a radially aligned region (regions adjacent to the partitions) disposed radially-outward of the radially skewed portion.

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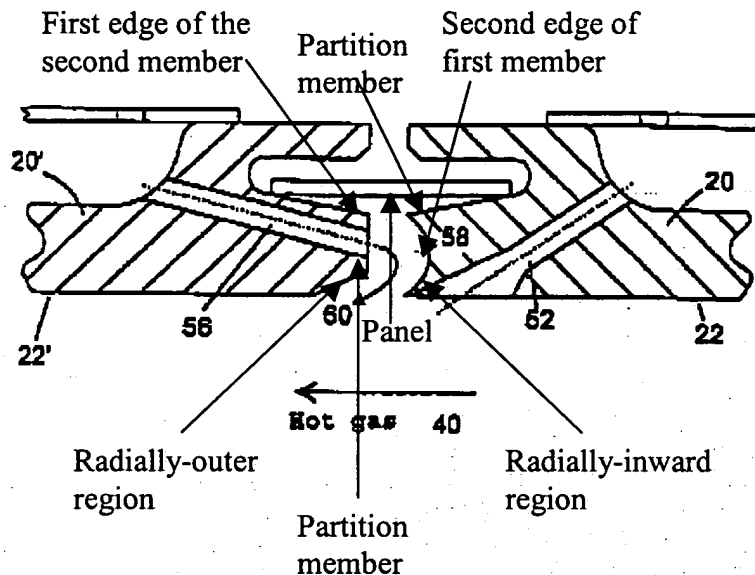


Fig. 13

### Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kreis teaches to have cooling conduit that connect to radial surfaces. Kubwabara et al, Kelch et al, Weidner, Tuley, Bierend, McGarth et al and Lillibridge et al teach a seal assembly to have radially-skewed portions. Desmond discloses to have partitions to form a serpentine passage between a passage way.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vishal Patel whose telephone number is (703) 308-8495. The examiner can normally be reached on Monday through Friday from 7:30 PM to 4:00 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford, can be reached on (703) 308-2978.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2168. Technology Center 3600 Customer Service is available at 703-308-1113. General Customer Service numbers are at 800-786-9199 or 703-308-9000. Fax Customer Service is available at 703-872-9325.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

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**or faxed to:** 703-872-9326, for formal communications for entry before Final action: or,  
703-872-9327, for formal communications for entry after Final action.

Hand-delivered responses should be brought to Crystal Park Five, 2451 Crystal Drive,  
Arlington, Virginia, Seventh Floor (Receptionist suite adjacent to the elevator lobby).

VP

January 21, 2005



Heather Shackelford  
Supervisory Patent Examiner  
Tech. Center 3600